

25. (Twice Amended) A guide rail safety device, for an elevator car riding on a non-metallic guide rail, the guide rail safety device comprising:

a housing;

Cy a wedge disposed in the housing, the wedge having a friction surface aligned for contact with the non-metallic guide rail, the friction surface being formed of a material that has a coefficient of friction of approximately 1.0 relative to the non-metallic guide rail;

at least one horizontal locator disposed in the housing for engaging the wedge and urging the friction surface into contact with the non-metallic guide rail so that the friction surface is wedged against the non-metallic guide rail by motion of the elevator car along the non-metallic guide rail; and

an actuator for triggering urging of the friction surface by the horizontal locator.

REMARKS

Applicants request reconsideration of the subject application in view of the foregoing amendments and the following remarks.

Claims 15-34 are pending, of which claims 15 and 25 are independent. Claims 22 and 32 have been withdrawn as being drawn to a non-elected species. Claims 15, 19 and 25 have been amended.

In the Office Action, the disclosure is objected to because of an informality. Applicants have amended the specification as suggested by the Examiner and request withdrawal of the objection.

In the Office Action, claims 15-21, 23-31, 33 and 34 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing non-enabled subject matter. The Office Action indicates that "concrete guide rails" are critical or essential to the practice of the invention, and that claims which do not recite a concrete guide rail in combination with a friction surface in order to provide a given coefficient of friction are invalid. Applicants respectfully traverse this rejection.

Initially, Applicants note that although the claims of the subject application do not positively claim a non-metallic guide rail, as previously noted, the recitation of such in each claim does define structural features of the claimed safety device. These features, such as coefficient of friction, are pertinent to the patentability of the subject claims. See, for example, the discussion in MPEP 2111.02 of *In re Stencel*.

Claim 15 has been amended to recite that the non-metallic guide rails are formed of concrete. Although concrete rails are not required for the invention, this recital has been added to the claim since, as noted in the specification, the recited pressure (approximately 50 psi or less) is desirable *for concrete guide rails*. Applicants note that claim 15 does not specify a coefficient of friction. However, as also noted in the specification, the relative coefficient of friction is *preferred* to be approximately 1.0 in order to provide the necessary stopping force at a low pressure. Nowhere does the specification indicate that a specific coefficient is required. See MPEP 2164.08(c).

Claim 25, on the other hand, recites that the friction surface is formed of a material that has a coefficient of friction of approximately 1.0 relative to the non-metallic guide rail, but does not specify that the guide rail is concrete. (This claim, like claim 19, has been amended to improve its form and even more clearly define the invention.) Although the specification indicates that the rails are *preferably* constructed of a high compression strength material *such as* concrete, nowhere does the specification indicate that concrete is required. The value of the specified relative coefficient of friction pertains to any frangible, non-metallic guide rail.

The mere fact that the specification does not explicitly describe friction surface materials having the specified coefficient relative to any other non-metallic guide rail material besides concrete, does not preclude claiming a friction surface material having the specified coefficient relative to a non-specified non-metallic guide rail. Since the specific materials are not disclosed as being critical (but rather only as preferred embodiments), the question is whether one of skill in the art would have been enabled to make the claimed invention. Once the teachings of the subject application are taken into account, it would have been abundantly clear to one of skill in the art how to select

a friction surface having the desired coefficient of friction relative to any selected non-metallic guide rail. See MPEP 2164.01 and 2164.08(c).

Therefore, the claims are fully supported in the specification, and Applicants request withdrawal of the rejections under § 112.

Claims 15-20, 23, 25-30 and 33 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over DE 2 054 936 (DE '936) in view of GB 2 190 356 (GB '256). Claims 21 and 31 stand rejected under § 103(a) as allegedly being unpatentable over DE '936 in view of GB '356, and further in view of US 5,531,295 (Kopman). Claims 24 and 34 stand rejected under § 103(a) as allegedly being unpatentable over DE '936 in view of GB '356, and further in view of US 5,065,845 (Pearson). These rejections are respectfully traversed.

In the embodiments recited in the claims, the subject invention relates to a guide rail safety device, for an elevator car riding on a non-metallic guide rail, including, inter alia, a wedge having a friction surface aligned for contact with the non-metallic guide rail and at least one horizontal locator for engaging the wedge and urging the friction surface into contact with the non-metallic guide rail so that the friction surface is wedged against the non-metallic guide rail by motion of the elevator car along the non-metallic guide rail. Independent claim 15 recites that the friction surface is sized and the wedge is shaped so that, when urged by the horizontal locator into contact with the non-metallic guide rail (formed of concrete), the friction surface is wedged against the non-metallic guide rail with a pressure of not more than approximately 50 psi on the non-metallic guide rail, arresting the motion of the elevator car. Independent claim 25 recites that the friction surface is formed of a material that has a coefficient of friction of approximately 1.0 relative to the non-metallic guide rail. Neither of these aspects of the invention is disclosed or suggested in the cited art.

According to Applicants' understanding, DE '936 appears to illustrate guides 5/8 that are integral to a wall 1. However, based on Figs. 2 and 3 of DE '936, these guides 5/8 do not appear to be guide rails, but rather projections that bracket a counterweight 10. Further, the guides 5/8 appear to be for use only with the

counterweight 10 (the car 12 apparently rides on conventional rails). Therefore, even assuming that DE '936 discloses non-metallic guide rails, it is believed that one of skill in the art would not have been disposed to utilize safeties having the claimed wedge mechanism to engage such bracketing guides 5/8. Further, given the availability of the conventional rails guiding the car 12, there would have been no reason to provide any type of safeties on the counterweight 10 to engage the guides 5/8.

Further, even ignoring the foregoing, Applicants disagree with the assertion in the Office Action that it would have been obvious from the formula disclosed in GB '356 to employ the claimed pressure and/or coefficient of friction. The formula recites friction force as a function of spring force, coefficient of friction and wedge angle. The formula does not reflect or depend on pressure, so Applicants do not understand how deriving a specified pressure would have been obvious. Further, there is no indication in GB '356 (or anywhere else in the art) that a coefficient of friction in the claimed range would be optimum. In fact, GB '356 asserts that the disclosed device is less sensitive than conventional devices to variations in relative the coefficient of friction (page 1, lines 101-107).

Kopman et al., which is cited for its disclosure regarding vulcanized rubber, and Pearson, which is cited for its disclosure regarding bi-directionality, are not understood to disclose the features that are absent from the teachings of DE '936 and GB '356.

Therefore, independent claims 15 and 25 patentably define the invention over the cited art, and are submitted to be allowable.

The dependent claims include features in addition to those recited in their respective base claims, and are submitted to be allowable in their own right. Further independent consideration of the dependent claims is requested.

Applicants respectfully request reconsideration of these rejections and allowance of the subject claims.

Applicants submit that the subject application is in condition for allowance, and request a notice thereof.

Please charge any additional fees or credit overpayment to Deposit Account No.
15-0750, Order No. OT-4551.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Sean W. O'Brien", written over a horizontal line.

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